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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,718	03/26/2004	Shigeo Takenaka	250760US2S CONT	8085
22850	7590	09/10/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			ZIMMERMAN, GLENN	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 09/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/809,718

Applicant(s)

TAKENAKA ET AL.

Examiner

Glenn Zimmerman

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☒ Claim(s) 4-7 and 9 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>0704</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 44 and t. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 9 is objected to because of the following informalities: In claim 9 line 2, the examiner suggest changing "within" to - - less than or equal to - -. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: metal back or transparent electrically conductive film. The examiner notes that the limitation of supplying a voltage to the first substrate is indefinite, as the voltage is supplied to the anodic metal back or transparent electrically conductive film that is on the first substrate not the first substrate.

Claims 2-8 are rejected for depending from a rejected base claim.

A 112 2nd paragraph rejection has been determined for claim 1, as written about above. However, a further evaluation of the claim will be done while interpreting "image display surface" in line 3 as "image display surface that includes an anode metal backing or anode transparent electrically conductive film on the inner surface of the first substrate".

A 112 2nd paragraph rejection has been determined for claim 1, as written about above. However, a further evaluation of the claim will be done while interpreting "first substrate" in lines 15 and 16 as "anode".

A 112 2nd paragraph rejection has been determined for claim 9, as written about above. However, a further evaluation of the claim will be done while interpreting "first substrate" in lines 23 and 24 as "anode".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Compain et al. U.S. Patent 6,683,415 in view of Nakamura et al. Japanese Patent Application Publication Number 03-149728.

Regarding claim 1, Compain teaches an image display device comprising:

A first substrate (Fig 7 ref. 6) having an image display surface (ref. 7 & 9) that includes an anode metal backing or anode transparent electrically conductive film (ref. 9) on the inner surface of the first substrate; a second substrate (ref. 10) opposed to the first substrate across a gap (Fig. 7 no ref. #) and having a plurality of electron sources (ref. 2) which excite the image display surface; a grid (ref. 40) provided between the first and second substrates and having a plurality of beam passage apertures (fig. 3) opposed to the electron sources individually; and a voltage supply unit which applies a voltage (Va) to the anode and applies a voltage higher (col. 3 lines 33-35) than the one for the anode to the grid (Fig. 5), but fails to teach a plurality of spacers which maintain

the space between the first substrate and the second substrate;. Nakamura in the analogous art teaches a plurality of spacers which maintain the space between the first substrate and the second substrate (drawing 3 ref. 18). Additionally, Nakamura teaches incorporation of such a spacer to improve atmospheric pressure proofing of the image display device (constitution).

Consequently it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use a plurality of spacers which maintain the space between the first substrate and the second substrate in the display screen of Compain, since such a modification would improve atmospheric pressure proofing of the image display device as taught by Nakamura.

Regarding claim 9, Compain et. Al. U.S. patent 6,683,415 discloses an image display device according to claim 1 wherein the voltage applied to the grid is set within 1.5 times as high as the voltage applied to the anode (Fig. 5).

Claims 1-3, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takenaka et al. U.S. Patent 6,583,549 in view of Compain et al. U.S. Patent 6,683,415.

Regarding claim 1, Takenaka teaches an image display device comprising: a first substrate (Fig. 11) having an image display surface that includes an anode metal backing (ref. 17) or anode transparent electrically conductive film on the inner surface of the first substrate;

A second substrate opposed to the first substrate across a gap and having a plurality of electron sources which excite the image display surface;

A grid provided (ref. 24) between the first and second substrates and having a plurality of beam passage apertures (ref. 26) opposed to the electron sources, individually;

A plurality of spacers (ref. 30a and 30b) which maintain the space between the first substrate and the second substrate.

, but fails to teach A voltage supply unit which applies a voltage to the anode and applies a voltage higher than the one for the anode to the grid. Compain et al. in the analogous art teaches A voltage supply unit which applies a voltage to the anode and applies a voltage higher than the one for the anode to the grid (Fig. 5). Additionally, Compain teaches incorporation of such a higher voltage to improve the forbidding of generated parasitic ions from reaching the cathode or the anode.

Consequently it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use a voltage supply unit which applies a voltage to the first substrate and applies a voltage to the first substrate and applies a voltage higher than the one for the first substrate to the grid in the image display of Takenaka, since such a modification would improve the forbidding of generated parasitic ions from reaching the cathode or the anode as taught by Compain.

Regarding claim 2, Takenaka et al. discloses an image display device according to claim 1, wherein the grid has a first surface opposed to the first substrate and a second surface opposed to the second substrate, and the spacers includes a plurality of columnar first spacers (ref. 30a) set up on the first surface of the grid and abutting

against the first substrate and a plurality of columnar second spacers (ref. 30b) set up on the second surface of the grid and abutting against the second substrate.

Regarding claim 3, Takenaka et al. discloses an image display device according to claim 2, wherein each of the first spacers is set up on the first surface of the grid between the beam passage apertures, and each of the second spacers is setup on the second surface of the grid between the beam passage apertures and aligned with the first spacers (Fig. 8 and 11).

Regarding claim 8, Takenaka et al. discloses an image display device according to claim 1, wherein the surface of the grid and the inner surface of each beam passage apertures are subjected to high-resistance surface treatment (col. 17 line 59; surface is surface).

Regarding claim 9, Compain discloses wherein the voltage applied to the grid is set within 1.5 times as high as the voltage applied to the anode (Fig. 5). This claim is rejected for the same reasons found in claim 1.

Claims 1-3, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takenaka et al. WO 01/71760 A1 in view of Compain et al. U.S. Patent 6,683,415.

The examiner notes that Takenaka et al. U.S. Patent 6,583,549 is a continuation of Takenaka et al. WO 01/71760 A1 and that the U.S. Patent is in English and the WO document is in Japanese. Therefore the examiner rejects the same claims as rejected using the U.S. Patent in view of Compain except using the WO document in view of Compain while using the U.S. Patent as an English Translation of the WO document.

Allowable Subject Matter

Claims 4-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 4-7 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Regarding claim 4, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests an image display device including the combination of all the limitations as set forth in claim 4, and specifically wherein the first spacers are shorter than the second spacers could not be found elsewhere in prior art.

Regarding claim 5, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests an image display device including the combination of all the limitations as set forth in claim 5, and specifically wherein each of the first spacers abuts against the first substrate across a height correcting layer could not be found elsewhere in prior art.

Regarding claim 6, claim 6 is allowed for the reasons given in claim 5, because of its dependency status on claim 5.

Regarding claim 7, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests an image display apparatus including the combination of all the limitations as set forth in claim 7, and

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specifically wherein the second spacers have a surface resistance lower than the surface the surface resistance of the first spacers could not be found elsewhere in prior art.

Conclusion


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cade et al. U.S. Patent 6,373,175 discloses an electronic switching device (col. 5 line 50).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenn Zimmerman whose telephone number is (571) 272-2466. The examiner can normally be reached on M-W 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh D Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Glenn Zimmerman


Vip Patel
Primary Examiner
AU 2879